

IN THE SPECIFICATION:

Please amend the paragraph starting at page 2, line 3 as follows.

Here, as the cleaning means, a method is widely used in which a cleaning blade made of an elastic material, such as rubber ~~which~~ that is provided in contact with the photosensitive member surface, is attached to a cleaning frame member.

Please amend the paragraph starting at page 2, line 13 as follows.

Toner seal members are also attached on the side of a development frame member, corresponding to both lengthwise ~~both~~ ends of the developing sleeve, and gaps between the developing sleeve and the development frame member are sealed to prevent the toner from scattering or leaking therethrough.

Please amend the paragraph starting at page 3, line 5 as follows.

The present invention is designed to improve these conventional toner seal members, and aims as an object thereof to provide a toner seal member which can prevent fine toner from leaking via the photosensitive drum surface coming into contact with fine powder in the cleaning frame member and also prevent toner coarse powder from adhering to the photosensitive drum surface, and has sufficient toner sealing properties without damaging the functions of the photosensitive drum and performances concerned with image formation.

Please amend the paragraph starting at page 3, line 18 as follows.

The present invention provides a toner seal member which is to be kept in contact with a rotating member to seal a toner, wherein the toner seal member has a ~~nonwoven-fabric~~ non-woven fabric sheet on a support layer formed of an elastic ~~member, the member, the~~ non-woven fabric sheet having a fiber diameter of from 2 μm to 10 μm .

Please amend the paragraph starting at page 3, line 24 as follows.

The present invention also provides a process cartridge detachably mountable to the main body of an electrophotographic image forming ~~apparatus, the apparatus, the~~ process cartridge comprising an image bearing member and a toner seal member kept in contact with the image bearing member to seal a toner, wherein the toner seal member has a ~~nonwoven-fabric~~ non-woven fabric sheet on a support layer formed of an elastic ~~member, the member, the~~ non-woven fabric sheet having a fiber diameter of from 2 μm to 10 μm .

Please amend the paragraph starting at page 4, line 6 as follows.

In the toner seal member according to the present invention, the ~~nonwoven-fabric~~ non-woven fabric sheet has the fiber diameter of from 2 μm to 10 μm , and this makes higher the toner collection ability by which the fine-diameter toner having adhered to the photosensitive drum surface can be wiped off without making the toner slip through, and makes it possible to assure the production of stable images over a long period of time.

Please amend the paragraph starting at page 4, line 22 as follows.

Fig. 4 is a ~~detail~~ detailed view of the toner seal member.

Please amend the paragraph starting at page 5, line 4 as follows.

The toner seal member according to the present invention makes use of a ~~nonwoven-fabric~~ non-woven fabric sheet having a fiber diameter of from 2 μm to 10 μm . As a fiber of the ~~nonwoven-fabric~~ non-woven fabric sheet used in the present invention, a synthetic fiber of polyester, polyamide or polyethylene may be used. In particular, polyester fiber is preferred.

Please amend the paragraph starting at page 5, line 11 as follows.

The ~~nonwoven-fabric~~ non-woven fabric sheet may more preferably have a fiber diameter of from 2 μm to 8 μm in view of toner wipe-off performance. The ~~nonwoven-fabric~~ non-woven fabric sheet may also preferably have a void fraction of from 0.85 to 0.90 in view of the ability to collect the toner wiped off.

Please amend the paragraph starting at page 6, line 12 as follows.

This electrophotographic image forming apparatus (a laser beam printer, hereinafter "image forming apparatus"), A, is constructed in the following way: As shown in Fig. 1, a drum-shaped electrophotographic photosensitive member (image bearing member, hereinafter "photosensitive drum") 7 is irradiated ~~by~~ with information light based on image information, emitted from an optical system 1 as an optical means, to form an electrostatic latent image on the

photosensitive drum 7, and this electrostatic latent image is developed with a developer (hereinafter “toner”) to form a toner image. Then, in synchronization with the formation of the toner image, a recording medium (such as a recording paper, an OHP sheet or a cloth) 2 is sheet by sheet separately fed from a cassette 3a by means of a pick-up roller 3b and a pressure contact member 3c provided in pressure contact therewith, and is further fed along a transfer guide 3f1. Then, the toner image formed on the photosensitive drum 7 of a process cartridge B is transferred to the recording medium 2 by applying a voltage to a transfer roller 4 serving as a transfer means, and this recording medium 2 is transported to a fixing means 5 along a transfer guide 3f2. This fixing means 5 consists basically of a drive roller 5a, and a fixing rotary member 5c constituted of a cylindrical sheet provided internally with a heater 5b and supported rotatably, and fixes the transferred toner image by applying heat and pressure to the recording medium 2 being passed there. Then, this recording medium 2 is transported by means of a delivery roller 3d, and is put out to a delivery section 6 through a reverse transport path. Incidentally, in this embodiment, the transport means is constituted of the pick-up roller 3b, the pressure contact member 3c, the delivery roller 3d and so forth.

Please amend the paragraph starting at page 7, line 21 as follows.

Meanwhile, the process cartridge B has an electrophotographic photosensitive member (photosensitive drum) and at least one process means. Here, the process means includes, e.g., a charging means which charges the electrophotographic photosensitive member electrostatically, a developing means which develops the electrostatic latent image formed on the electrophotographic photosensitive member, and a cleaning means for cleaning the toner

remaining on the electrophotographic photosensitive member. The process cartridge B of the present embodiment is constructed in the following way: As shown in Fig. 2, a photosensitive drum 7, which is an electrophotographic photosensitive member having a photosensitive layer, is rotated, where the surface of the photosensitive drum 7 is uniformly electrostatically charged by applying a voltage to a charging means comprising a charging roller 8, and is exposed through an exposure opening 9b to information light (optical image) based on image information, emitted from the optical system 1, to form the electrostatic latent image on the photosensitive drum 7 surface. This electrostatic latent image is developed by means of the developing means.

Please amend the paragraph starting at page 8, line 18 as follows.

The developing means sends out a toner held in a toner container section 10a, by means of a rotatable feeding member 10b which is a toner-feeding member. Then, a developing sleeve 10d, which is a developing rotating member (developer carrying member) provided therein with a stationary magnet 10c, is rotated, and also a toner layer to which triboelectric charges have been imparted is formed on the developing sleeve 10d by means of a developer blade 10e. The toner of this toner layer is moved to the photosensitive drum 7 in accordance with the electrostatic latent image to form a toner image so as to be rendered visible.

Please amend the paragraph starting at page 9, line 3 as follows.

Then, after the toner image has been transferred to the recording medium 2 by applying to the transfer roller 4 a voltage with a polarity reverse to that of the toner image, the toner having remained on the photosensitive drum 7 is scraped off by means of a cleaning blade 11a and also

scooped out by a scoop sheet 11c so that the toner remaining on the photosensitive drum 7 can be removed by means of a cleaning assembly in which the removed toner ~~removed~~ is gathered in a waste-toner holder section 11d.

Please amend the paragraph starting at page 9, line 13 as follows.

The process cartridge B shown in this embodiment consists basically of a cleaning frame member 11e which supports the photosensitive drum 7 rotatably and is incorporated with the cleaning blade 11a and a the charging roller 8, and a toner development frame member 10f which is incorporated with a developing assembly and a toner container section 10a. Then, the toner development frame member 10f is rotatably supported with respect to the cleaning frame member 11e in such a way that the developing sleeve 10d of the developing assembly can face the photosensitive drum 7 in parallel and leaving a stated space between them. Spacers (not shown) which keep the space between the developing sleeve 10d and the photosensitive drum 7 are disposed at both end portions of the developing sleeve 10d.

Please amend the paragraph starting at page 10, line 2 as follows.

Next, the cleaning assembly used in the present invention is described in detail with reference to Fig. 3. The cleaning assembly is constituted of i) the cleaning blade 11a, which is made of urethane rubber and is supported with a sheet metal 11b and in this state is kept in contact with the photosensitive drum 7 surface in what is called the counter direction thereto, ii) the waste-toner holder section 11d, which receives the toner scraped off the photosensitive drum 7 surface by the cleaning blade 11a, and iii) a toner seal member 12 which is attached to each end

portion of the waste-toner holder section 11d, positioned at each end portion bearing surface in the lengthwise direction of the cleaning blade 11a, and one face of which is kept in pressure contact with the surface of the photosensitive drum 7 ~~surface~~ to prevent the toner from leaking and scattering from the waste-toner holder section 11d.

Please amend the paragraph starting at page 10, line 20 as follows.

As an example of the ~~nonwoven-fabric~~ non-woven fabric sheet, a case is described in which a polyester nonwoven fabric is used.

Please amend the paragraph starting at page 10, line 23 as follows.

A ~~detail~~ detailed view of the toner seal member 12 is shown ~~given~~ in Fig. 4. An L-shaped toner seal member 12 has an elastic member 12b made of foamed polyurethane, wool or synthetic-fiber felt or the like, to the surface of which a sheetlike member 12a, formed of a polyester nonwoven fabric of from 0.1 mm to 4 mm in thickness, is bonded with, e.g., a double-side pressure-sensitive tape or a hot-melt adhesive. Then, this toner seal member 12 is stuck with, e.g., a double-side pressure-sensitive tape to each end portion of the waste-toner holder section 11d, and is also kept in pressure contact with the photosensitive drum 7 in such a way that its surface extends along the curvature of the surface of the photosensitive drum 7 ~~surface in~~ by virtue of the elasticity of the elastic member 12b. The toner having come from the atmosphere to adhere to the end portions of the photosensitive drum in its lengthwise direction is wiped off by the toner seal member, and the toner is wiped off into voids formed in entangled fibers is collected.

Please amend the paragraph starting at page 11, line 16 as follows.

Performance evaluation is described below in detail in respect of the polyester ~~nonwoven-fabric~~ non-woven fabric sheet (manufacturer: Toray Industries, Inc.; Wiping Cloth SILRISM, type name: YNS330N) used in the present invention. Here, results obtained in comparison with a TEFLON (Du Pont's polyfluoroethylene polymer) felt sheet having been used in conventional toner seal members are also shown. A comparison ~~Comparison~~ was also made of the ~~on~~ fiber thickness (i.e., ~~nonwoven-fabric~~ non-woven fabric sheet thickness) (t), the diameter (D), the basis weight (G), the specific gravity (®) and the void fraction (k) of the respective materials used in the evaluation. Results are shown in Table 1. Here, the void fraction is defined to be:

Please amend the paragraph starting at page 12, line 21 as follows.

How to make an evaluation is described below with reference to Fig. 5.

Please amend the paragraph starting at page 12, line 23 as follows.

As described previously, in this embodiment, the toner seal member 12 is provided at each end portion bearing surface in the lengthwise direction of the waste-toner holder section 11d. In this evaluation, however, what is intended is the evaluation of materials, and hence three seal members 12' each having the size shown in Fig. 6 are prepared, and a seal-member-sticking bearing member 11f is provided over the lengthwise whole area of the cleaning frame member 11e, where the seal members 12' are fastened with a double-side pressure-sensitive tape to the sticking bearing surface 11f. The sticking bearing member 11f is provided on the side that is

downstream, as viewed from the rotational direction of the photosensitive drum 7, to the position (P) at which the transfer roller 4 of the image forming apparatus main body and the photosensitive drum 7 ~~is~~ are kept in contact with each other and on the side that is upstream to the cleaning blade 11a. The process cartridge is inserted to the image forming apparatus main body and is so constructed that the toner remaining on the photosensitive drum 7 after the transfer to the recording medium can be wiped off and collected. The seal-member-sticking bearing member 11f is also so made up as to be detachable from the waste-toner holder section 11d. Here, as toner wipe-off ability, the weight of toner having adhered to the seal members 12' is measured to make the evaluation.

Please amend the paragraph starting at page 13, line 20 as follows.

The positional relationship between the photosensitive drum 7, the seal member 12' and the sticking bearing surface 11f is shown in Fig. 7. In this evaluation test, the sticking bearing member 11f is made to have a shape arced concentrically to the photosensitive drum 7, and the level of pressure contact with the photosensitive drum (i.e., crush level) of the seal member 12' is set to 2 mm, to make an evaluation.

Please amend the paragraph starting at page 14, line 2 as follows.

The evaluation was also made setting as parameters the fiber diameter D and void fraction k of the polyester ~~nonwoven~~ non-woven fabric. The fiber diameter was measured by observing the fiber thickness on a microscope (magnifications: 500) and expressed as an arithmetic mean of the thickness of twenty fibers taken at random.

Please amend the paragraph starting at page 15, line 5 as follows.

In order that the fine-diameter toner having adhered to the photosensitive drum surface is wiped off without making the toner slip through, it is considered advantageous for the fiber diameter to be smaller. Also, when the ~~toner~~ wiped off toner is collected into the voids of fibers, it is considered advantageous for the void fraction to be larger. In this respect as well, the polyester ~~nonwoven~~ non-woven fabric is more advantageous than the TEFLON felt ~~in~~ with regard to the toner collection ability.

Please amend the paragraph starting at page 15, line 15 as follows.

It is considered that, the smaller the fiber diameter ~~is~~ and the larger the void fraction ~~is~~, the higher the toner wipe-off ability ~~comes~~. It, however, is considered that, if the fiber diameter is less than 2 μm under conditions of actual use, the fibers may ~~come~~ become so weak in stiffness as to be disadvantageous in respect of durability. It is also considered that, if the fiber diameter is more than 8 μm , the toner seal member may make the toner slip through in a high percentage.

Please amend the paragraph starting at page 16, line 14 as follows.

As developing methods as well, it is possible to use various developing methods, such as two-component magnetic brush development, cascade development, touchdown development and cloud development which are known in the art.

Please amend the paragraph starting at page 16, line 19 as follows.

In constructing the charging means as well, what is called contact charging is used in the above embodiment. As other constructions ~~construction~~, a construction may of course be employed in which metallic shields of aluminum or the like are provided on the three sides around a tungsten wire and a high voltage is applied to the tungsten wire, where the positive or negative ions thereby produced are made to move to the surface of the photosensitive drum to charge the drum surface uniformly.